



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 1939/PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/CH2002/000512	International filing date (day/month/year) 18 September 2002 (18.09.2002)	Priority date (day/month/year)
International Patent Classification (IPC) or national classification and IPC A61F 2/44		
Applicant MATHYS MEDIZINALTECHNIK AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 3 sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 25 February 2004 (25.02.2004)	Date of completion of this report 03 December 2004 (03.12.2004)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.

PCT/CH2002/000512

I. Basis of the report

1. With regard to the elements of the international application:*

the international application as originally filed

the description:

pages 1-12, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

the claims:

pages _____, as originally filed
 pages _____, as amended (together with any statement under Article 19
 pages _____, filed with the demand
 pages 6-15 / 1-5, filed with the letter of 26.8.2004 / 01.11.2004

the drawings:

pages 1-6, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

the sequence listing part of the description:

pages _____, as originally filed
 pages _____, filed with the demand
 pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
 the language of publication of the international application (under Rule 48.3(b)).
 the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

contained in the international application in written form.
 filed together with the international application in computer readable form.
 furnished subsequently to this Authority in written form.
 furnished subsequently to this Authority in computer readable form.
 The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

the description, pages _____
 the claims, Nos. _____
 the drawings, sheets/fig. _____

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

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V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-15	YES
	Claims		NO
Inventive step (IS)	Claims	1-15	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims		NO

2. Citations and explanations

Reference is made to the following documents:

D1: US-B-6 368 350 (GRIFFITH STEVEN L ET AL)

9 April 2002 (2002-04-09)

D2: WO 01/01893 A (BEYERSDORF BORIS; MARNAY THIERRY
(FR); SPINE SOLUTIONS INC (US))

11 January 2001 (2001-01-11)

1. D1, which is considered to represent the closest prior art in relation to the subject matter of claim 1, discloses (the references in parentheses are to this document) (see figures 6, 7, 9, 10 and 21-24 and column 8, line 53 to column 9, line 6):

An intervertebral implant with

- A) two joint pieces (20, 22, 270), each of which have a central axis, a sliding surface (25, 46) intersecting the central axis and an axially projecting end (24, 47) connectable with a bone, wherein
- B) the sliding surfaces (25, 46) are curved,
- C) the sliding surfaces are displaceable onto each other, and
- D) the second joint piece (22) is rotatable relative

to the first joint piece (20, 270) about two axes of rotation arranged in a skewed manner, and the projecting ends (24, 47) of the joint pieces each comprises a connecting element (23, 29, 30, 260); wherein

F) a connecting element (260) has an oval indentation (250, 251, 252) coaxial with the central axis to receive the projecting end (271) of the adjacent joint piece (270).

The subject matter of claim 1 differs from the known intervertebral implant in that the indentation has an axial recess at its lowest plane and the projecting end of the adjacent joint piece has an enlargement coaxial with the central axis which can be accepted by the recess, and in that the sliding surfaces are saddle-shaped.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

The problem addressed by the present invention may therefore be considered that of restricting the axial rotation of the joint pieces of the implant relative to each other such that said rotation is adapted to the physiology of the spine.

The solution to this problem proposed in claim 1 of the present application involves an inventive step (PCT Article 33(3)). The reasons are:

The solution is neither suggested by a search report citation nor follows therefrom in an obvious manner.

In consideration of the search report citations, the

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invention claimed in claim 1 meets the requirements of PCT Article 33(1): that is, it appears to be novel, to involve an inventive step and to be industrially applicable.

2. Claims 2-15 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty, inventive step and industrial applicability.